AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for forming a polysilicon film on a dielectric layer, said method comprising:

providing a semiconductor substrate having a dielectric layer thereon in a reaction chamber;

injecting a first silicon source gas at a first flow rate into said reaction chamber to form a first polysilicon film with a first surface over said dielectric layer;

injecting a second silicon source gas at a second flow rate into said reaction chamber to form a second polysilicon film with a second surface having a higher flatness compared to said first surface over said first polysilicon film, wherein said second silicon source gas has a different growth rate than said first silicon source gas;

patterning said second polysilicon film and said first polysilicon film ~~to remove~~ by removing a region of said second polysilicon film and ~~form a third surface~~ a part of said first polysilicon layer located thereunder so that a remaining part of the first polysilicon film forms a third surface flatter than said first surface; and

removing said remaining part of the first polysilicon ~~layer with said third surface~~ film until said dielectric layer is exposed.

2. (Currently Amended) A method as ~~claimed~~ in claim 1, further comprising: cleaning said semiconductor substrate before said dielectric layer is formed thereon.

3. (Currently Amended) A method as in claim 2, wherein said cleaning is performed by ~~means of~~ a dilute ~~Hydro-Fluorine solvent~~ <u>hydrofluoric acid</u> to remove native oxide and impurity of said semiconductor substrate surface.

4. (Previously Presented) A method as in claim 2, wherein said dielectric layer is a gate dielectric layer.

5. (Previously Presented) A method as in claim 4, wherein said gate dielectric layer is silicon dioxide.

6. (Previously Presented) A method as in claim 5, wherein said silicon dioxide is formed in the RTO (Rapid Thermal Oxidation) oxide chamber.

7. (Previously Presented) A method as in claim 6, wherein said silicon dioxide is formed in a temperature range of from 500°C to 700°C and a pressure in a range of from 150 mTorr to 1.5 Torr.

8. (Previously Presented) A method as in claim 7, wherein said silicon dioxide has a thickness of about 15 angstrom to 30 angstrom.

9. (Previously Presented) A method as in claim 1, wherein said first silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

10. (Previously Presented) A method as in claim 9, wherein said first polysilicon film is formed in a RTO (Rapid Thermal Oxidation) poly chamber.

11. (Previously Presented) A method as in claim 1, wherein said injecting a first silicon source gas step is performed for a time period sufficient to form said first polysilicon film with a thickness of about 1000 angstrom to 2000 angstrom.

12. (Previously Presented) A method as in claim 1, wherein said second silicon source gases is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

13 (Previously Presented) A method as in claim 12, wherein said second polysilicon film is formed in a RTO (Rapid Thermal Oxidation) poly chamber.

14. (Previously Presented) A method as in claim 1, wherein said injecting a second silicon source gas step is performed for a time period sufficient to form said second polysilicon film with a thickness of about 200 angstrom to 1000 angstrom.

15. (Previously Presented) A method as in claim 1, wherein a total thickness of said first polysilicon film plus said second polysilicon film is about 1000 angstrom to 2500 angstrom.

16. (Currently Amended) A method as in claim 1, further comprising:

injecting a third silicon source gas into said reaction chamber to form a third polysilicon film over said second polysilicon film, said third silicon source gas having a different growth rate than said first and second silicon source gases; and

patterning said third polysilicon film before patterning said first and second polysilicon films by removing a first region of said third polysilicon film, wherein said first region of the third polysilicon film corresponds to said region of the second polysilicon film.

17. (Previously Presented) A method as in claim 16, wherein said third silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

18. (Previously Presented) A method as in claim 17, wherein said first polysilicon film is formed in the RTO (Rapid Thermal Oxidation) poly chamber.

19. (Previously Presented) A method as in claim 16, wherein said injecting a third silicon source gas step is performed for a time period sufficient to form said third polysilicon film with a thickness of about 200 angstrom to 1000 angstrom.

20. (Currently Amended) A method as in claim 19, wherein a total thickness of said first polysilicon film, ~~plus~~ said second polysilicon film[[,]] and said third polysilicon film is about 1500 angstrom to 3000 angstrom.

21. (Currently Amended) A method for avoiding polysilicon film being over-etched, said method comprising:

forming a dielectric layer on a semiconductor substrate;

forming a first polysilicon film over a dielectric layer, wherein said first polysilicon film is formed by a first silicon source gas at a first flow rate and has a first surface;

forming a second polysilicon film over said first polysilicon film, wherein said second polysilicon film is formed by a second silicon source gas at a second flow rate and has a second surface with a higher flatness compared to said first surface, said second silicon source gas having a different growth rate than said first silicon source gas;

forming a patterned photoresist layer on said second polysilicon film;

performing a dry etching process by using said patterned photoresist layer as an etching mask to etch said second polysilicon film and said first polysilicon film until said second polysilicon film is removed and a third surface of said first polysilicon ~~layer~~ film is formed;

removing said first polysilicon ~~layer~~ film under said third surface until said dielectric layer is exposed; and

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removing said photoresist layer.

22. (Previously Presented) A method as in claim 21, further comprising:

cleaning said semiconductor substrate before forming said dielectric layer.

23. (Currently Amended) A method as in claim 22, wherein said cleaning is performed by ~~means of~~ a dilute ~~Hydro-Fluorine solvent~~ hydrofluoric acid to remove native oxide and impurity of said semiconductor substrate surface.

24. (Previously Presented) A method as in claim 21, wherein said dielectric layer is a gate dielectric layer .

25. (Previously Presented) A method as in claim 24, wherein said gate dielectric layer is silicon dioxide.

26. (Previously Presented) A method as in claim 25, wherein said silicon dioxide is formed in a RTO (Rapid Thermal Oxidation) oxide chamber.

27. (Previously Presented) A method as in claim 26, wherein said silicon dioxide is formed in a temperature range of from 500°C to 700°C and a pressure range of from 150 mTorr to 1.5 Torr.

28. (Previously Presented) A method as in claim 27, wherein said silicon dioxide has a thickness of about 15 angstrom to 30 angstrom.

29. (Currently Amended) A method as in claim ~~22~~ 21, wherein said first silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

30. (Previously Presented) A method as in claim 29, wherein said first polysilicon film is formed in a RTO (Rapid Thermal Oxidation) poly chamber.

31. (Currently Amended) A method as in claim ~~22~~ 21, wherein said first polysilicon film has a thickness of about 1000 angstrom to 2000 angstrom.

32. (Currently Amended) A method as in claim ~~22~~ 21, wherein said second silicon source gases is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

33. (Previously Presented) A method as in claim 32, wherein said second polysilicon film is formed in a RTO (Rapid Thermal Oxidation) poly chamber.

34. (Currently Amended) A method as in claim ~~22~~ 21, wherein said second polysilicon film has a thickness of about 200 angstrom to 1000 angstrom.

35. (Currently Amended) A method as in claim ~~22~~ 21, wherein total thickness of said first polysilicon film with said second polysilicon film is about 1000 angstrom to 2500 angstrom.

36. (Currently Amended) A method as in claim ~~22~~ 21, further comprising:

forming a plurality of polysilicon films over said second polysilicon film before forming said patterned photoresist, wherein each of said polysilicon films is formed by a specific silicon source gas with a different growth rate than said first and second silicon source gases; and

wherein said dry etching process comprises removing said plurality of polysilicon films by using said patterned photoresist layer as an etching mask before removing said second polysilicon film.

37. (Previously Presented) A method as in claim 36, wherein said specific silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

38. (Previously Presented) A method as in claim 37, wherein each of said polysilicon films is formed in the RTO (Rapid Thermal Oxidation) poly chamber.

39. (Cancelled).